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HeadsUp

Toyota's plug-in hybrid car is scheduled to arrive at dealerships in the spring of 2012.

INNOVATION

Toyota Plans Social Net for Customers

TOYOTA HAS joined with Salesforce.com to offer owners of Toyota's electric and plug-in hybrid vehicles a private social network for sharing maintenance tips, the companies announced last month.

The social network, called Toyota Friend, will let the automaker deliver up-to-date information and remind owners of maintenance schedules. For example, using the Salesforce Chatter service, Toyota could alert a customer whose vehicle is low on battery power and needs recharging.

The automaker will launch Toyota Friend next year in Japan, followed by the U.S. and Europe, initially for owners of electric vehicles and then for buyers of plug-in hybrids.

Toyota will know from chips installed in each electric-powered vehicle what advice to give owners via its automated response system, said company spokeswoman Shiori Hashimoto.

It is easiest to program the electric and hybrid vehicles for the service, Hashimoto said. Toyota hasn't said whether it will later add buyers of gasoline-powered vehicles to the social network.

The network can also loop in Toyota dealerships. And vehicle owners can choose to invite others, such as friends or family members, by using the network's invitation functions. Toyota Friend applications will be available for smartphones and tablets, and traditional PCs will be able to access the service on the Web.

Microsoft will build the cloud-based Toyota Friend network.

– Ralph Jennings, IDG News Service

RESEARCH RECAP

SaaS Purchases Often Happen Outside IT's Realm

Software purchases made by non-IT business departments used to be called "rogue IT" or "shadow IT." But when it comes to today's software-as-a-service model, those buying decisions are now out in the open.

"Much of SaaS purchasing comes from groups outside of the traditional IT sourcing model," according to a Forrester Research report released last month.

In a survey of 1,007 North American and European IT service buyers, 56% of respondents said that business groups are the "primary driver" behind SaaS purchases for business processes, such as when sales VPs buy Salesforce.com hosted software. And 49% of respondents said that business managers are behind industry-specific SaaS purchases, such as systems for claims processing or hospital management.

Ideally, IT departments would be helping business managers with those purchases, to mitigate long-term risks and control the total cost of ownership, the report noted.

Overall, the report by analyst Liz Herbert was bullish on SaaS, saying the model has gone mainstream and is growing as organizations reap the benefits of lower costs and faster delivery of applications.

Nevertheless, a previous Forrester report noted that the SaaS model is limited to about a quarter of the overall software market.

– MITCH BETTS

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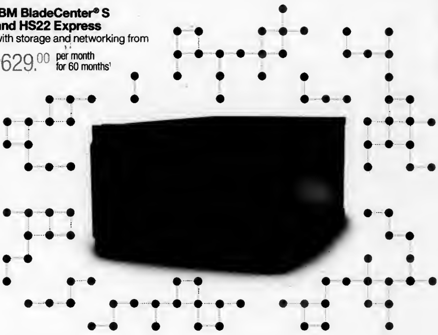

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BETWEEN THE LINES
By John Klossner

WEB PRIVACY

EU Law on Tracking Cookies Ignored

CRITICS WERE worried that the European Union's privacy directive on browser cookies could make virtually every website in Europe illegal. But most EU member countries ignored the May 25 deadline to implement the directive, so e-commerce didn't skip a beat.

Only Denmark, Estonia and the U.K. have taken steps to implement the privacy directive, said Jonathan Todd, a spokesman for the European Commission, and even those efforts may not be fully compliant with the policy.

EU countries have had two years to establish laws implementing the so-called cookies directive, which requires companies to obtain "explicit consent" from Web users before storing the small pieces of code that are often installed on a user's computer when visiting websites.

The directive makes an exception for cookies "strictly necessary for a service requested by a user," such as placing an online shopping order. But it requires permission for storing cookies that are used for targeted advertising and tracking Web behavior.

The slow implementation of the directive highlights the difficulty of crafting effective legislation to protect consumer privacy. What constitutes "consent" to store cookies is not defined in detail in the directive, and some countries are hoping that, in principle, having a browser set to "accept cookies" implies consent.

U.K. Information Commissioner Christopher Graham recently issued guidelines for implementing the law, although he said the U.K. will give companies one year to "get their house in order" before enforcement begins.

Graham acknowledged that his office's guidelines are "a work in progress." But he warned that browser settings alone may not be enough for compliance with the directive.

The 24 EU member states that have failed to turn the directive into national law could face sanctions from the European Commission, the EU's executive body, Todd said.

– Jennifer Baker, IDG News Service

Micro Burst

According to a McKinsey & Co. study, the Internet has created

2.6 jobs

for every one job it has eliminated.

SMARTPHONE APPS

New Mobile App Locates Low-Cost Prescriptions

Medco Health Solutions and Verizon Wireless last month released a mobile application that guides smartphone users to the locations where they can purchase the lowest-cost prescription drugs.

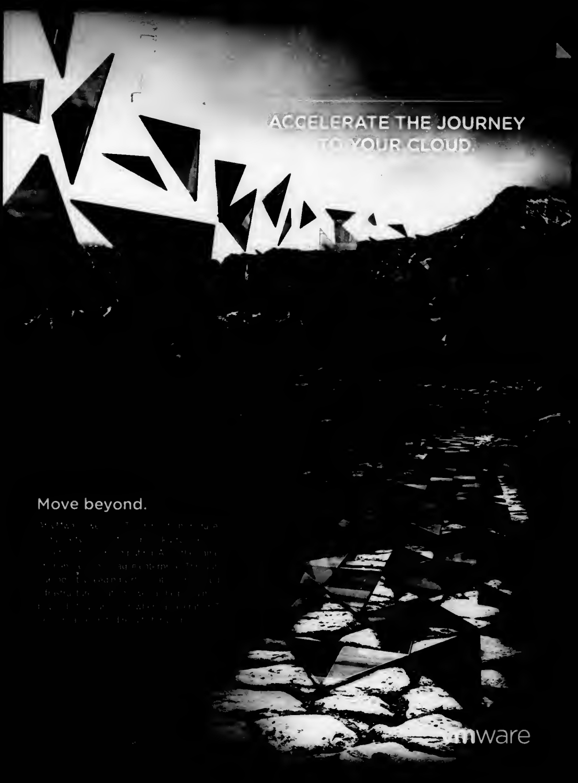
Verizon said the new Medco Pharmacy mobile app can also identify potentially harmful drug interactions based on Medco members' medication histories.

Medco, which provides pharmacy services to more than 65 million customers, said its pharmacy mobile app is available for BlackBerry and Android smartphone users. It provides information about out-of-pocket costs for any prescription drug and lower-cost options specific to a person's prescription drug plan, even if a patient is being treated by several doctors or fills prescriptions at many different pharmacies.

Medco said that half a million prescriptions that have lower-cost options are written each day.

The Medco Pharmacy mobile app is built on Medco's My Rx Choices prescription savings and patient safety program, which was launched online in 2006. To use the app, patients must first register at the Medco website. Once registered, their medication histories and drug plans are made available online.

– LUCAS MEARIAN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VW's 'Rolling Computers' Need Fresh IT Insight

Volkswagen is building a different kind of IT organization that can bring business and IT together for next-generation car development projects. By Patrick Thibodeau

VOLKSWAGEN IS ON THE ROAD to building cars infused with intelligence, connectivity and many new and creative capabilities.

Warren Ritchie, CIO of Volkswagen Group of America in Herndon, Va., calls the next-generation Volkswagen vehicle "a rolling computer."

As part of its effort to develop the new cars, which Ritchie said will include both products and services, Volkswagen is rebuilding its IT organization to make it more integrated with the business side of the company.

The automaker aims to create a vehicle that can sense and diagnose a fault, recommend a fix, check on the availability of a part at a dealer or warehouse, and even offer repair scheduling options to the car owner, Ritchie said at the Forrester Research IT Forum in Las Vegas last month.

The IT operation must play a key role in creating the technology used in the cars, he added.

"A lot of the services that we're envisioning will require access to corporate functionality or corporate data," Ritchie said, noting that IT is needed to create links between the vehicle and back-end corporate systems.

> **A lot of the services that we're envisioning** will require access to corporate functionality or corporate data.

The vehicle will also be designed to work with consumer electronics products. "We have to make it a place where the consumer can bring connectivity to the vehicle," Ritchie said.

The broad parameters of Volkswagen's plan match goals set throughout the auto industry, he added, citing the OnStar communications system in General Motors vehicles.

Volkswagen's effort to realign its IT operation may face significant challenges, since it comes at time when business units are feeling increasingly liberated from IT.

Forrester analyst Sharyn Leaver said that many corporate departments are becoming empowered by the consumerization of IT. She noted that business operations now have the ability to quickly meet their technology needs by, for example, using cloud-based self-provisioning services.

Leaver sketched out the problem facing IT executives by citing a recent Forrester survey of some 2,700 business leaders. "The good news is, there is no question that business [unit] leaders believe that the future of the organization hinges on technology," she said, noting that 87% of the survey respondents said technology is critical to their operations.

The downside, said Leaver, is that 65% of the respondents said their individual business units are making technology purchases directly — without IT involvement. For example, the survey found that many marketing professionals feel that IT doesn't move fast enough to meet their needs.

In an interview, Ritchie acknowledged the changing IT landscape and said that Volkswagen is responding by creating an IT team that focuses on understanding the business and its direction, and on knowing how to architect technologies to meet those needs.

He also noted that he has created an IT position called "business technologist" that's charged with helping people in business units make good technology decisions.

The position requires an IT background and an understanding of technology integration, as well as the ability to speak the language of business, Ritchie said.

He predicted that the trend of business units trying to bypass IT is here to stay, saying, "That's the reality of what's taking place." ◆

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There may be a **shift in their portfolio** [strategy].

Oracle Now Avoiding Big Acquisitions

Analysts say the firm is looking to fill gaps with small buys while it focuses on integrating Sun Microsystems and finishes key Fusion Applications development. By Chris Kanaracus

ORACLE'S growth-by-acquisition strategy has slowed markedly this year, and analysts say the firm is concentrating instead on integrating Sun Microsystems products and personnel into the company and finishing work on the long-awaited Fusion Applications.

So far this year, the company's acquisitions have been limited to picking up some intellectual property assets in February from privately held Ndevr, a maker of environmental reporting and analytics software, and acquiring U.K.-based Datanomic, a small, venture-funded data-quality vendor, in April.

Sale prices were not disclosed in either deal, suggesting that neither is material to Oracle's bottom line.

In contrast, the company completed some 70 deals, several of which were major, billion-dollar-plus acquisitions, between 2005 and 2010.

Oracle's last big acquisition — the $7.4 billion purchase of Sun — closed in early 2010. Since then, Oracle has been working to shore up Sun's hardware business and started pushing a vision of integrated systems that span from disks to applications.

In the foreseeable future, analysts expect that Oracle will concentrate on acquiring some key technologies that could improve its standing in fast-growing areas like "big data" management, mobile technologies and social software.

Forrester Research analyst James Kobielus said Oracle may be joining "everyone and his brother" in going after technologies related to the open-source Hadoop framework for large-scale data processing. Possible acquisition targets include Datameer, Karmasphere and Cloudera, which offer a variety of Hadoop tools and services, he said.

Ray Wang, an analyst at Constellation Research, added that the company is also likely to try to fill holes with mobile technology and social software assets. "There may be a shift in their portfolio [strategy] to pick up those things," he said.

Wang suggested that Oracle could take a look at emerging platform-as-a-service vendors such as Joyent or Engine Yard to boost its mobile business. For social applications, Oracle has a wide variety of acquisition choices, he added, among them Jive Software, which has been rumored to be candidate for acquisition.

Wang said it's likely that Oracle is interested in adding healthcare applications to its software portfolio, not just for electronic medical records, but also in areas such as nurse recruiting and adverse-event reporting for pharmaceuticals. The healthcare analytics tools would probably be built on top of its core business intelligence stack, he said.

Oracle may also be looking to further increase its growing emphasis on hardware. Last year, for example, the company acquired a 10.2% stake in Mellanox, a maker of InfiniBand interconnects.

Also, while few analysts expect that Oracle will invest heavily in professional services to compete with the likes of Hewlett-Packard and IBM, it could buy small, specialist systems-integration firms, particularly those that focus on BI projects.

An Oracle spokeswoman declined to comment on the company's plans.

But once the company is done integrating Sun and developing the modular Fusion Applications, its rapid-growth-by-acquisition strategy could return. Observers note that executives cited former HP CEO Mark Hurd's experience "operating a $100 billion business" as one reason Oracle hired him as a co-president last year. ◆

Kanaracus *is a reporter for the IDG News Service.* **James Niccolai** *of the IDG News Service contributed to this story.*

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THE Grill

Larry Bonfante

This CIO coach aims to teach IT professionals how to inspire and lead.

What book are you reading now? *Motivate Like a CEO: Communicate Your Strategic Vision and Inspire People to Act!*, by Suzanne Bates

Most interesting thing people don't know about you: In college, I played in a band that opened for Aerosmith.

What do you do in your spare time? Play music. I have a band; we play classic rock. I'm lead singer, and I play guitar.

What goal have you set to achieve next? My real focus is to really help more people reach their potential.

PHOTOGRAPHY BY TIM COOK / COURTESY OF AVAYA

LARRY BONFANTE, *CIO of the U.S. Tennis Association, has shared his insight on what it takes to successfully lead an IT organization, through various speaking engagements, his work with the Society for Information Management and his executive coaching practice, CIO Bench Coach. Bonfante recently added one more outlet to the list: He published his first book,* Lessons in IT Transformation: Technology Expert to Business Leader, *in April. For the past 29 years, Bonfante has held executive leadership positions in various fields, including the financial, pharmaceutical and nonprofit sectors. He was also one of* Computerworld's *Premier 100 IT Leaders in 2009.*

You've certainly been a visible CIO, and you've already shared your thoughts publicly. Why write a book? This is my second year doing executive coaching, and it's become obvious to me that there's a pressing need for leadership development for CIOs and

Continued on page 12

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> **Many CIOs come from the IT ranks, where there's an emphasis on hard skills,** but the human element doesn't come naturally to them.

Continued from page 10

aspiring CIOs. I learned [to be a CIO] the hard way — by making mistakes and picking myself up and dusting myself off — but there doesn't seem to be a lot of that kind of information out there. So there's a need for it, and I have a desire to share with people so they don't make the same mistakes. The easiest way for me to capture a broad audience was in a book.

What are the most common mistakes that IT leaders make? A lot of IT leaders are very effective managers of projects and technology. They've got that skill set, but they don't necessarily have the human dynamics, such as inspiring people with a compelling vision, communication skills, marketing skills, the ability to effectively partner with their C-level colleagues, developing their people — all the human things so critical for success in the 21st century. Many CIOs come from the IT ranks, where there's an emphasis on hard skills, but the human element doesn't come naturally to them.

What do you mean by the "human side of IT leadership"? Working with people to develop a shared vision, working with your counterparts in the organization to drive business value, being an effective communicator, being an effective marketer, being an effective relationship manager, working to develop human capital to make sure they're growing professionally, partnering with other professionals. These characteristics aren't intuitive. It's not something that most people are adept at out of the gate.

Your book looks at the difference between leadership and management. How do they differ? To me, they're very different sets of muscles, very different skill sets. Leadership is about where we're going, setting a direction so people understand where they're going. And leadership helps answer why we're going there. There's probably a dozen destinations an organization could go to, so why is it you've chosen that one? Management is how I get there — how do we get from Point A to Point B? So one is about vision; the other is about execution.

Do IT leaders need skills that other executives don't have to have? I think that all C-level executives need to have the skills that I outline in the book, but there is one skill that CIOs need to call on more than some of the others, and that is to effectively market internally. People understand what the chief marketing officer does and what the chief financial officer does, but people understand less what technology does and the criticality of technology in driving business results. So if you're not an effective marketer, you lose the ability to get what you need.

You've also talked about how to inspire people. How do CIOs go about that? How do *you* go about that? I think there are two things. Most people think inspiration is about having a force of charisma, and that's what draws inspiration. But for me, it's less about your personal charisma and more about being able to inspire people about what the organization is trying to accomplish, getting them excited about what the organization is trying to accomplish, and linking that to their day-in, day-out tasks. And getting to know what matters to their people. It's not about what gets me excited but about what gets you excited, and if I can tap into that, so what gets you excited is available for you to do, that's what gets people inspired.

What are some of the biggest ongoing challenges in your own CIO position? There are so many things that you could do, but you need to be focusing on the few things that really matter and putting your time and energy into the things that matter most. So the biggest challenge is focusing your resources on what will truly matter for the organization.

What does the future hold for CIOs in general? I think you're going to see the CIO position go in two directions. Those who focus on only being technology providers, their roles will be marginalized, assumed within the business or go away altogether. However, if you are working to truly drive business value, to act as a trusted adviser to the rest of the partners in the business organization, there is a chance to have a greater impact.

— *Interview by* Computerworld *contributing writer* **Mary K. Pratt** *(marykpratt@verizon.net)*

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OPINION

PRESTON GRALLA

Changing of the Guard: Microsoft Falls to No. 3

A YEAR AGO, much was made of the fact that Apple's market value had surpassed that of Microsoft. At the time, it was hard to know whether this was a one-off kind of occurrence — the result of a remarkable run-up by Apple — or a permanent shift.

One year later, it's clear that the change is permanent, because a ghost from Microsoft's past has also surpassed it in market value: IBM. Yes, the company Microsoft left for dead more than a decade ago now has a higher market value than Microsoft.

What a difference a decade and a half makes. The last time IBM's market value exceeded Microsoft's was 1996. As I write this, near the end of May 2011, Apple is valued at $308.08 billion, IBM at $205.2 billion and Microsoft at $203.82 billion. Meanwhile, Google is within striking distance of Microsoft, with a $167.05 billion market cap.

It's instructive to take a look at what Apple and IBM did to surpass Microsoft, and what Microsoft *hasn't* done as it has dropped to the No. 3 position in terms of tech-company valuation.

Back in its glory days, Microsoft seemed to be on its way to vanquishing both Apple and IBM. Rather than competing in the low-margin PC hardware market, it stuck largely to software. It took the best of what it learned from Apple and IBM to put together what seemed to be an unstoppable business. From Apple it learned how to apply a simple, graphical user interface to an operating system, and from IBM it learned to focus its efforts on businesses. Apple couldn't compete in the business market. IBM floundered so badly, it gave up the PC business altogether.

So, what has happened since then? Apple and IBM reinvented themselves. Apple saw that its future did not lie solely on the desktop and delved into consumer electronics with the iPod, iPhone and iPad. IBM saw that it's future lay in services and integration, with a dollop of high-end hardware. Both strategies have been remarkable successes.

Microsoft, meanwhile, has greatly relied on the same product lineup for years — Windows, Office and server software, with a few entertainment devices like Xbox and Kinect thrown in. And it's true that it had a smartphone operating system before Apple and Google, but Windows Mobile and now Windows Phone 7 haven't gained any traction. It's well behind Google in search. Its online division has been a cash sinkhole, with no bottom in sight.

There are two ways Microsoft can react to being eclipsed. One is to resign itself to being No. 3 — or even No. 4, if Google jumps ahead of it. That wouldn't mean it has no future; it is still immensely profitable and will be for many years. But it will become a technology afterthought.

The other is to take a cue from Apple and IBM and reinvent itself — easier said than done. For Microsoft, reinventing itself would mean no longer relying on Windows as its überbrand. Rather than tying everything back to Windows, from mobile to online, it would have to rethink whether the Windows brand and look-and-feel really is suitable for mobile phones, and whether the word "Windows" has any cachet in an online world. Does anyone really know what Windows Live means, for example? Or what Windows Phone 7 has to do with Windows on the desktop?

Microsoft shows no signs of taking a radical step like that. But if Google surpasses it in the market cap rankings, don't be surprised if it makes such a move. ◆

Microsoft can resign itself to being No. 3 behind Apple and IBM, or take a cue from those that have surpassed it.

Preston Gralla is a *Computerworld.com* contributing editor and the author of more than 35 books, including *How the Internet Works* (Que, 2006).

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Extreme AUTOMATION

TO SOMEONE standing outside the FedEx Ground distribution hub in Hagerstown, Md., the package delivery business appears deceptively simple.

On one side of the building, workers unload trucks full of boxes and parcels that have been picked up from businesses and various regional drop-off points. On the opposite side of the building, they load the same packages — now sorted by ZIP code — onto more trucks. The outbound vehicles then head for points north, south, east and west to deliver their time-sensitive loads of small packages on a specified date — FedEx Ground's specialty — to destinations anywhere in the continental United States and Canada.

[illegible] **sort 3.5 million packages a day without human intervention,** [illegible]

But if you venture inside the cavernous, warehouse-like facility, it's a different story. First, there's the noise — a loud and steady hum from the network of whizzing conveyor belts that speed up to 7,500 packages an hour through a highly complex and thoroughly automated categorizing and tracking process that involves a primary sort, a secondary sort

BY THE NUMBERS

FedEx Ground

$7.4 billion in revenue in 2010 | **3.5 million** packages handled daily | **70,000** employees | **22,000** vehicles | **500-plus** facilities in North America | **32** fully automated hubs

TAMARA REYNOLDS

Extreme AUTOMATION

FedEx Ground's hubs **sort 3.5 million packages a day without human intervention,** helping the courier win market share.

BY JULIA KING

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and no fewer than 12 scans before packages reach their destinations.

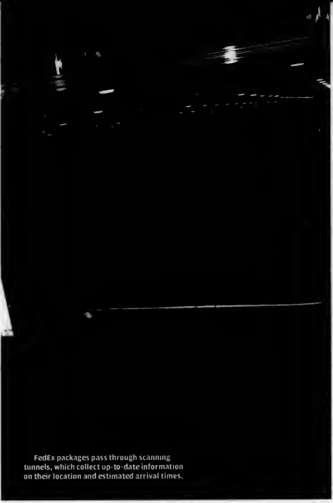
The scans record each package's physical dimensions, weight and destination ZIP code, plus other information, such as where the package is at any given moment, whether in the hub or en route to its destination.

At the hub, "after a package is unloaded from a trailer, the next time it is touched by human hands is at the loading dock," says Ken Spangler, a senior vice president and CIO at FedEx Ground, a $7 billion unit of FedEx Corp. "Everything in between is automated."

And "everything in between" — such as the routing of the package — can also be changed on the fly. But it all happens at lightning speed, and that's critical because winning market share in the ultra-competitive $31 billion domestic ground package-delivery business comes down to a matter of milliseconds.

"Over the last five years, we have been on a mission to get faster and faster," Spangler says. "We re-engineer and speed up our lanes an average of twice a year, and sometimes more frequently than that. Over 80,000 ZIP-code-to-ZIP-code lanes are at least a day faster now." As a result, the company's ground service is able to deliver in a single business day almost a quarter of the 3.5 million packages it handles daily. Most packages — about 85% — are delivered within three business days.

In the past six years, FedEx Ground has fully automated 53 of its terminals and opened nine new hubs, such as the 600,000-plus-square-foot Hagerstown facility, which has been expanded twice since it opened in 2005. The business result: FedEx Ground has gained market share for 25 consecutive quarters, notes Spangler.


FedEx packages pass through scanning tunnels, which collect up-to-date information on their location and estimated arrival times.

The much larger, $49.5 billion United Parcel Service, which is FedEx Ground's chief competitor, has "a similar level of automation," says Satish Jindel, president of SJ Consulting Group, a transportation and logistics consultancy in Sewickley, Pa.

But there's one big factor that differentiates FedEx Ground in the automation wars: the level of vendor independence and control it has in choosing the sorting and scanning systems and the other pieces of material-handling equipment that make up its proprietary Integrated Sortation System, or ISS.

Typically, vendors of sorting equipment and camera-based scanning hardware provide turnkey systems (including sorting software) to the delivery industry. In contrast, FedEx Ground requires vendors to provide a standard interface so that it can integrate the sorting and scanning hardware into its proprietary and customized process — similar to the way Wal-Mart requires its suppliers to ship products according to its specifications.

"This decouples us from vendor systems and provides what we believe to be a distinct competitive advantage," Spangler says. "We had vendors before who controlled the actual sortation systems. That really held us captive to how good they were as an

Continued on page 22

> Over the last five years, **we have been on a mission** to get faster and faster.
>
> **KEN SPANGLER,** CIO, FEDEX GROUND

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ISS itself is FedEx Ground's other big differentiator. Based on a service-oriented architecture, the system is made up of a series of business process components, or rules, which can be swapped out or modified as business conditions or customer specifications dictate. For example, a large shipper may require that all of its packages, regardless of weight or size, be shipped together. The rules engine can be configured on the fly to quickly accommodate the requirement.

How It Works

Remarkably, given the complexity of the processes it handles in milliseconds, ISS was built on the principle of simplicity, says Shawn Weis, technical principal and the chief architect behind ISS.

"We tried to keep it as simple as possible by breaking everything down to functional components," Weis says. "We applied all of the principles of adaptability and scalability. By isolating all business rules into components, we created a very configurable business rules engine. As business rules change, we can add configurations or change configurations without changing lines of code to fulfill business needs." This is also what enables FedEx Ground to continually re-engineer and improve its overland routing efficiency.

Back on the distribution floor, ISS controls where and when to divert each moving package, based on data recorded by the scanners situated above the conveyor belts. This is where system performance is absolutely critical.

"We have a second, maybe two, to divert packages as they should be diverted based on the overhead scanner information," Weis notes. "Obviously, that makes performance a huge deal."

Toward that end, FedEx Ground has designed and implemented "contingencies for contingencies" for virtually anything and everything that can happen at a hub, says Spangler.

First, redundancy is required for everything. "There are dual ISS servers, routers and core switches, and there are remote network closets beside each sorter," Spangler notes. Separate fiber networks run to each closet from the central server room.

Also, all scanners and sorting equipment send package data directly to two ISS servers, rather than taking the conventional approach of sending data to a single server with a second server playing backup. But it wasn't always this way. The change was made "because anything that takes longer than 450 milliseconds can cause a potential issue," Spangler says. "So now, both servers have all of the transactions all of the time. We changed the architecture to bring it up another level."

FedEx Ground also has contracts for telecommunications services with two carriers and has a backup for each. If there's a massive outage on the wired network, FedEx moves to its satellite network.

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Sorting Out the **Architecture**

KEN SPANGLER, CIO of FedEx Ground, calls them "special forces."

Headed by Chief Architect Shawn Weis, a 12-year veteran of FedEx, the team that developed FedEx Ground's Integrated Sortation System started with four members – all software engineers – and grew to seven at its peak. At the outset, they spent a lot of time in hotel meeting rooms surrounded by whiteboards.

"We went through a visioning exercise during which we sat down with our business partners and asked them where they wanted sortation to go for the next five to 10 years," recalls Weis. "What we did then was make [the software components] configurable so that, when new or different rules were added later, we were prepared."

Working with business partners across the company, the team took 18 months to design the system and another two years to build it. After that came the rollout to 53 FedEx Ground facilities, including 32 hubs, which took four and a half years.

The ISS architecture has enabled FedEx Ground to efficiently and quickly integrate new businesses. When FedEx Ground acquired its SmartPost business – which consolidates high volumes of low-weight, less-time-sensitive packages for final delivery by the U.S. Postal Service – it needed to integrate various Postal Service processes and data.

"There were different business rules," Weis notes. But because of the component-based architecture, the new processes could be encapsulated in service-based components and easily integrated into FedEx Ground's backbone ISS.

In the end, he says, "It's all about the architecture."

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IT Milestones

Fred Smith

Cosmos,

dispatch system

FedEx PowerShip,

SuperTracker.

FedEx.com,

FedEx Ship

FedEx interNetShip,

1D and 2D bar codes.

mobile app

SenseAware,

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FedEx Ground commits to publishing package tracking and location data for customer viewing within 15 minutes of taking custody of a package. But in reality, Spangler says, "it's near-real-time: We generally see publishing on an average of five minutes."

The process also works in reverse. Many of FedEx Ground's largest customers, like Hallmark, electronically feed shipping data to the carrier before their packages are picked up. It takes one to three minutes to configure ISS with the customer's shipping specifications and be ready to sort and ship accordingly, Spangler says.

The bottom line: Where FedEx Ground was once nimble, "we're now *extremely* nimble," Spangler says.

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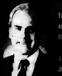
Major **IT Milestones** In FedEx History



[illegible]: **Fred Smith** (left), who founded FedEx in 1971, declares: "The information about a package is as important as the package itself."

[illegible]: FedEx launches **Cosmos,** a centralized computer system designed to track packages, routes, weather, vehicles and employees.

198[illegible]: Implements a **dispatch system** that allows customers to electronically request pickups.

1984: Introduces **FedEx PowerShip,** a PC-based shipping system.

[illegible]: Introduces a handheld bar-code scanner known as **SuperTracker.**

1994: Launches **FedEx.com,** a website for online package tracking.

1994: Releases **FedEx Ship** desktop software.

1996: Introduces **FedEx interNetShip,** which lets customers process shipments online.

2004: Deploys a shipping label using **1D and 2D bar codes.**

2009: Offers a **mobile app** for the iPhone.

2010: Releases **SenseAware,** a product that monitors the condition of sensitive shipments.

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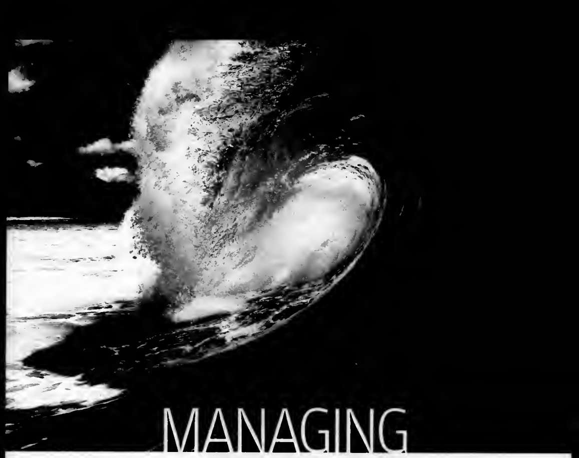

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MANAGING THE TABLET wave

The policies that companies use for smartphones can work for tablets, too.

BY BETH STACKPOLE

WHEN REHABCARE EXECUTIVES started asking IT for Apple iPads several months ago, CIO Dick Escue didn't miss a beat.

Unlike many of his peers in the healthcare industry, he had no real qualms about security, despite the specter of compliance with the Health Insurance Portability and Accountability Act. Nor did he have misgivings about users loading the devices with personal photos and music, or about the possibility that iPad users would need additional IT support.

While these concerns have other IT shops scrambling, the RehabCare team was ahead of the game. Thanks to a widespread deployment of Apple's iPhone a couple of years earlier, the St. Louis-based provider of acute care services had a formal deployment strategy that it could apply to the iPad and other tablets.

Rather than trying to ban mobile units or deploy them haphazardly, RehabCare's IT group implemented new corporate policies and standardized on mobile management technologies that opened doors for the iPhone, and now the iPad, to be used in the enterprise in a secure, centrally managed fashion.

Based on his prior experience with the iPhone, Escue was well aware that users, not the IT department, are rapidly becoming the driving force behind new technology adoption — a trend that has come to be known as the consumerization of IT.

"There was a time when work was where you got new technology, but that day is over, thanks to unbounded innovation in the consumer technology world," says Escue, who heads up technology efforts for RehabCare, which has operations nationwide.

With the recent introduction of the iPad 2, the Motorola Xoom and the RIM PlayBook, and new versions of the Samsung Galaxy Tab, tablets are taking the enterprise by storm.

Gartner estimates that 69.8 million media tablets will be shipped in 2011, and analysts and forward-thinking tech managers say it's time for IT to do more than simply take note of that surge.

As with the iPhone before it, the iPad is cropping up in all corners of the enterprise, brought in by C-level execs, sales folks and people who purchased the devices for personal use and, now hooked, are hungry to use them on the job.

Regardless of whether staffers use their own tablets or company-issued models, the influx means IT needs a systematic approach for managing, tracking, securing and supporting these devices.

"What the iPhone started to show us — and the iPad is absolutely making clear — is that these devices are coming in whether you like it or not," says Leslie Fiering, a Gartner analyst. "That means that IT has its work cut out for it."

Mobile Device Management

In the early days, enterprise-level security for iPhones was nonexistent, but that's not the case anymore. Apple's iOS 4.x operating system for both the iPhone and the iPad supports an array of security features, including encryption, centralized management and remote data wipe.

Dozens of enterprise mobile device management (MDM) tools offer similar capabilities for other smart mobile devices, enabling IT to do everything from setting policies and configuring devices remotely to performing remote wipes of devices that have been lost or stolen and creating "enterprise sandboxes" — secure virtual areas where personal data can be kept separate from corporate data using tools like passwords and encryption.

IT shops that already have such systems in place for smartphones are well positioned to address security and management concerns from day one of a tablet deployment.

Tellabs manages a growing fleet of a few hundred iPads, says CIO

Tellabs, a Naperville, Ill.-based supplier to the telecommunications industry, is leveraging many such capabilities to manage a growing fleet of a couple hundred company-owned iPads. Tellabs' supply chain professionals, sales reps and other employees are using iPads to access email and calendars, as well as enterprise applications that allow them to approve customer shipments.

Employees are required to enter credentials to access applications and information. Tellabs also employs an "always connected" model, where applications work only when a device is connected to the network via the Internet.

"Data doesn't reside on the mobile device for offline access," explains Jean Holley, Tellabs' CIO. "This model prevents loss of corporate data and intellectual property. As the mobile Internet gets smarter and the coverage area continues to grow, we believe there will be minimal need for offline capability in the future."

All iPads and other mobile devices are centrally provisioned with mail, calendar and other enterprise applications and are "known" to Tellabs' MDM platform, Sybase Afaria from SAP.

BYOT Policies Emerging

Tellabs uses Afaria to enforce end-to-end encryption during transmission, help with provisioning, and create a sandbox that keeps work-related applications separate from users' personal apps, which they are allowed to load on their iPads.

Tellabs' mobility strategy will enable the company to accommodate other tablets, and to accept employee-owned smartphones, tablets and other gadgets, as long as they are properly secured.

The company has a global mobile device policy that covers who is eligible to use mobile devices, how expenses related to the devices will be approved, what happens in the event of theft or loss, and who is responsible for tech support. (In general, Tellabs supports devices owned by the company; employee-owned devices are user-supported.)

Bring Your Own iPad? Sure!

Active Interest Media (AIM), a publisher of special-interest magazines and websites, uses MDM software from Good Technology that enables the El Segundo, Calif.-based company to accommodate employee-owned devices, including iPads, other tablets and an array of smartphones.

In addition to letting employees bring their own tablets to work, AIM just purchased 20 iPads that it lends to staffers who are going on business trips, so they don't have to bring their laptops.

Good's enterprise iPad app synchronizes Microsoft Exchange and Lotus Domino email, calendar and contacts and pushes that data out to users, who access it by logging in with a username and password. It also affords IT granular control over things like apps and corporate data access, according to Nelson Saenz, director of IT at AIM.

"Bring-your-own iPads are treated as any other mobile device, just like a phone would be," Saenz says. Users must sign consent forms in which they agree to have the Good app installed on their devices, grant permission for remote wiping of their devices if they're lost or stolen, and confirm that they will abide by AIM's usage policies.

If things change, the Good MDM platform can help enforce policies as they evolve. For instance, Saenz says, "from a security standpoint, we haven't felt the need to put stringent restrictions on apps or iTunes access, but if that should change, it can all be done within the Good console."

Delivering the Apps

As users' requirements move beyond email and calendar access to productivity software and other corporate tools, IT needs to create a strategy for application delivery. Conceptus, a medical device manufacturer, has developed its own enterprise app store to distribute internal apps so it doesn't have to worry about serving up proprietary programs in a public venue, according to Jeff Letasse, Conceptus' CIO.

Currently, the internal app store offers about five applications, including an in-house sales and marketing tool, and Letasse is hoping that number will quickly grow.

The Mountain View, Calif.-based company doesn't support employee-owned devices, but it has purchased more than 250 iPads for its executive staff and field sales reps, who use the devices to access customer relationship management and marketing support applications.

Conceptus has modified its usage policies to allow employees to put personal apps on the devices — with the understanding that those apps might have to be remotely wiped in certain circumstances and that the devices can't be overloaded with so much content that they become inoperable for corporate use.

Even with IT's involvement, there are still gray areas where end users are in the driver's seat. Take upgrades, for example. Instead of having Letasse's group orchestrate an operating system upgrade over a period of months, as it would with PCs and laptops, Conceptus allows iPad users to upgrade iOS at their leisure without enlisting IT and without giving the group a chance to test the new technology with enterprise systems.

"We in the support world are trying to grapple with a loss of control," says Eric Simmons, director of IT operations and ERP solutions at Conceptus.

While the team is still hammering out its processes, it stays on

Tablet Strategies

Industry experts and IT managers recommend taking the following steps to support tablets in the workplace:

1 **Craft or amend usage policies** to enforce security best practices. This includes the use of multilevel passwords and device certificates, and the ability to remotely wipe devices that are lost or stolen.

2 **Establish tiered access to network resources** to secure critical data and applications.

3 **Re-architect application delivery mechanisms.** Consider setting up an internal app store.

4 **Determine what levels of support IT will provide.** Remember that the level of support may vary depending on whether devices are owned by employees or the company.

BETH STACKPOLE

We in the support world are trying to grapple with a loss of control.

ERIC SIMMONS, DIRECTOR OF IT OPERATIONS AND ERP SOLUTIONS, CONCEPTUS

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The company has a global mobile device policy that covers who is eligible to use mobile devices, how expenses related to the devices will be approved, what happens in the event of theft or loss, and who is responsible for tech support. (In general, Tellabs supports devices owned by the company; employee-owned devices are user-supported.)

Bring Your Own iPad? Sure!

Active Interest Media (AIM), a publisher of special-interest magazines and websites, uses MDM software from Good Technology that enables the El Segundo, Calif.-based company to accommodate employee-owned devices, including iPads, other tablets and an array of smartphones.

In addition to letting employees bring their own tablets to work, AIM just purchased 20 iPads that it lends to staffers who are going on business trips, so they don't have to bring their laptops.

Good's enterprise iPad app synchronizes Microsoft Exchange and Lotus Domino email, calendar and contacts and pushes that data out to users, who access it by logging in with a username and password. It also affords IT granular control over things like apps and corporate data access, according to Nelson Saenz, director of IT at AIM.

"Bring-your-own iPads are treated as any other mobile device, just like a phone would be," Saenz says. Users must sign consent forms in which they agree to have the Good app installed on their devices, grant permission for remote wiping of their devices if they're lost or stolen, and confirm that they will abide by AIM's usage policies.

If things change, the Good MDM platform can help enforce policies as they evolve. For instance, Saenz says, "from a security standpoint, we haven't felt the need to put stringent restrictions on apps or iTunes access, but if that should change, it can all be done within the Good console."

Delivering the Apps

As users' requirements move beyond email and calendar access to productivity software and other corporate tools, IT needs to create a strategy for application delivery. Conceptus, a medical device manufacturer, has developed its own enterprise app store to distribute internal apps so it doesn't have to worry about serving up proprietary programs in a public venue, according to Jeff Letasse, Conceptus' CIO.

Currently, the internal app store offers about five applications, including an in-house sales and marketing tool, and Letasse is hoping that number will quickly grow.

The Mountain View, Calif.-based company doesn't support employee-owned devices, but it has purchased more than 250 iPads for its executive staff and field sales reps, who use the devices to access customer relationship management and marketing support applications.

Conceptus has modified its usage policies to allow employees to put personal apps on the devices — with the understanding that those apps might have to be remotely wiped in certain circumstances and that the devices can't be overloaded with so much content that they become inoperable for corporate use.

Even with IT's involvement, there are still gray areas where end users are in the driver's seat. Take upgrades, for example. Instead of having Letasse's group orchestrate an operating system upgrade over a period of months, as it would with PCs and laptops, Conceptus allows iPad users to upgrade iOS at their leisure without enlisting IT and without giving the group a chance to test the new technology with enterprise systems.

"We in the support world are trying to grapple with a loss of control," says Eric Simmons, director of IT operations and ERP solutions at Conceptus.

While the team is still hammering out its processes, it stays on

Tablet Strategies

[illegible]

We in the support world are trying to grapple with a loss of control.

ERIC SIMMONS, DIRECTOR OF IT OPERATIONS AND ERP SOLUTIONS, CONCEPTUS top of upgrades by using MDM software from Zenprise. When the company recently needed to push out an upgrade for a sales and marketing app, Zenprise fed live data about who had upgraded into a data warehouse, so managers could check to ensure that employees were using the right version.

The IT group is also making a concerted effort to communicate with users more frequently, and it has instituted programs like an "app tip of the week" email newsletter.

Solving Support Issues

While the iPad and other tablets may be relatively easy to use, experienced tech managers say IT should still come up with a formal training program to acquaint users with the utility of new devices and to let them know about any new usage policies and application delivery mechanisms.

Software giant SAP has rolled out 3,500 corporate-issued iPads in its finance, executive management, sales, marketing and service units. At SAP, Web 2.0 technologies like wikis and other new self-service support tools are playing a key role in acclimating users and in easing the help desk's support burden, according to CIO Oliver Bussmann.

"We have a central place where users can go to learn how to use functions, find out what apps are available, [learn] how to use the apps, and to get answers to general questions," he explains. "We needed to beef up first-level support, knowing that there would be a groundswell of devices, and we had to educate users to utilize self-service online."

At RehabCare, CIO Escue isn't overly concerned about the support burden on IT. His group helps users connect their iPads to their home computers and encourages them to make their devices their own for personal use. His thinking: "We suspected they'd take better care of the device if it's got their personal stuff on it."

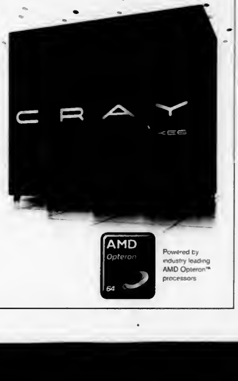
The strategy seems to be paying off. Internal statistics show that the number of device replacement tickets submitted to the help desk plummeted from 1,800 in 2009 to fewer than 150 in 2010 (including smartphones, laptops and iPads).

RehabCare IT currently supports just under 1,000 iPads, 2,000 iPhones and 9,000 iPod Touches, which it uses as inexpensive wireless devices that allow part-time and freelance workers in the field to access the company's healthcare apps.

For now, Escue is content to stick with the corporate-owned mobile device strategy and Apple gear. Nevertheless, he is mindful of the broader changes under way, and therefore he can't rule out supporting other tablets and platforms in the future.

"While our policy doesn't preclude people from bringing in their own technology, if we truly support [a bring-your-own-device policy], then people might go out and buy other devices," he says. Rather than trying to exert control over users' technology choices, Escue adds, "the smart thing to do is embrace the technologies and leverage the heck out of them." ●

Stackpole, *a frequent* Computerworld *contributor, has reported on business and technology for more than 20 years.*



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Desktop Dreams

Southern's high hopes for virtual desktops turn into **a learning experience** with soft returns.

BY MARY K. PRATT

AT A GLANCE

Company: Atlanta-based Southern Co. is one of the largest producers of electricity in the U.S., serving customers in Alabama, Florida, Georgia and Mississippi.

Team leader: David L. Coker, vice president of computing and network services, proposed the Virtual Desktop Implementation Project as a way to cut costs while maintaining reliable IT services.

IT department: The total size of the IT group is 1,007, supporting nearly 25,500 employees.

Return on investment: According to IT leaders, the desktop virtualization ROI comes from more efficient management and increased flexibility.

OUTHERN CO. had big ambitions for virtualizing its desktops. The company's IT leaders say they saw virtualization as an easier, cheaper setup than conventional PC environments.

In fact, as they started a virtualization pilot in early 2010, they figured they could do a widespread deployment without much difficulty and move most of the company's employees into a virtual desktop environment over two to three years.

Then reality hit.

"When we originally went into the pilot, we thought it would be a revolution — that we'd put these machines out across the organization and we'd save a lot of money," says Steve Weber, Southern's director of client services. "What I learned going through this is that it wasn't ready for the revolution, but it had evolution aspects."

The company's experience illustrates the complexities of desktop virtualization. On the one hand, IT leaders recognize that the architecture promises to deliver some powerful benefits and financial returns. On the other, they're learning that those returns don't come easily.

"I think it's a much better architecture. It's more stable. It's more secure. It's easier to manage. And I think it will become the preferred architecture," Weber says. "But the question is, how do you get there?"

Southern is working on the answer.

The Atlanta-based energy company first considered desktop virtualization in 2004, when it started to virtualize its data center.

Continued on page 30

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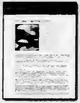

Download the white paper
"Building a Better Cloud"
at: sungardas.com/cloud11

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SUNGARD AVAILABILITY SERVICES

Continued from page 28

Client services manager Mark Canup says the company pushed for data center virtualization for the typical reasons: reduced costs, increased flexibility, and lower energy use.

Back then, Southern's IT executives believed that desktop virtualization could deliver similar benefits, Canup says. But while server virtualization in the data center moved ahead, initial attempts at desktop virtualization yielded few returns. That's because desktop virtualization five or so years ago essentially meant moving applications off a desktop and putting them on a server.

> What I learned going though this is that **it wasn't ready for the revolution,** but it had evolution aspects.
>
> **STEVE WEBER,** [illegible]

"You had a PC behind the data center for every thin client you had in the field when it first started out, and you couldn't get enough virtual desktops on one server to make sense," Weber says.

That had changed by late 2009, when Southern decided to launch a pilot desktop virtualization project.

Advances in the technology and desktop brokering now let desktop machines return to a nonpersistent state, allowing more of the flexibility and management control that IT was hoping for from the start, Canup says. These advancements also reduce the need for dedicated server space for each virtualized desktop.

Southern started its pilot in December 2009, extending it to 350 workers. Some used thin clients, others used Macs, and still others used their home computers to remotely access the environment. The company opted for Wyse thin clients and used Citrix XenDesktop as its desktop management system.

IT leaders at the company saw several benefits to going virtual, Canup says. They expected to avoid some hardware acquisitions and associated costs, because telecommuters could use their own desktops to access the company's virtual environment through the Web and because thin clients have longer life cycles than PCs — an average of eight years versus four years.

They expected to gain some flexibility, since applications and users wouldn't be tethered to a particular machine: An iPad, for instance, would be able to access the virtual environment just as easily as a PC would.

Southern IT leaders also anticipated more efficient management, because it's easier to patch applications and maintain security in a virtual environment. And because the virtual environment essentially issues a new PC every time a user logs on, the devices don't retain viruses and other afflictions.

However, Canup and Weber say getting the right applications to the right employees was a challenge.

Virtualization made it difficult for some employees to access the applications they needed, Canup explains. "During the pilot, they found that they couldn't get to the application or had to reinstall it every time they logged in," he says.

Weber says understanding each user's software needs was a daunting task.

Some workers, such as call center employees, have well-defined jobs that use only a few specific applications, he says. But others need different applications at different times and may have some that they only use once in a while. Putting those people in a virtual environment proved difficult because they couldn't access the applications they needed as readily as they could in a traditional environment.

Weber acknowledges that the IT staffers could take all the applications used in the company — there are more than 2,000, although only 200 or so are used with great regularity — and write them as Web applications that users could access in a Web-based virtual environment.

"But the business case to take applications and write them as a Web applications isn't there, because people would say, 'It's working today, so why would I pay to rewrite it?' " Weber says.

The company declined to say how much it has invested in its desktop virtualization initiative or the expected timeline for ROI, noting that many anticipated benefits, such as reduced hardware costs, wouldn't appear until several years into the rollout.

"We haven't seen the payback yet, but the payback doesn't come right upfront," Weber says. The environment, even scaled back, has already achieved some soft returns, such as more efficient management and greater flexibility, he says.

Gartner analyst Mark Margevicius says he hears from many IT leaders who are at first smitten with desktop virtualization and think they can use it to save money, solve management woes, and increase compliance and security.

"But there are still many issues that need to be dealt with. This technology is still far from perfect," he says.

The challenges kept Southern from aggressively moving ahead with desktop virtualization. Only about 180 of the company's 26,000 employees now work in a virtual environment.

Weber says workers in the pilot program who opted not to continue in the virtual environment did so because they needed better access to the applications they use regularly. But such challenges haven't completely stopped desktop virtualization.

"I don't know if we'd ever be able to get to 100% virtualization," Canup says. "But maybe some point down the road, it could be the preferred option for most." ◆

Pratt *is a Computerworld contributing writer in Waltham, Mass. Contact her at marykpratt@verizon.net.*

Tech With Promise

Desktop virtualization is gaining momentum, as IT executives see multiple reasons for moving in that direction. A server and desktop virtualization survey released by Gartner in January yielded these findings.

70% of the 226 respondents said they believe virtualization will improve business agility.

52% believe it will reduce capital expenditure costs.

51% think it will cut operational expenditures.

45% said it is part of an overarching data transformation strategy.

44% said it will provide reductions in energy costs.

30% said it's part of their company's green initiatives.

26% consider it one of their company's social responsibility initiatives

MARY K. PRATT

Continued from page 28

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Security Manager's Journal

MATHIAS THURMAN

Trouble Ticket

Cloud Storage Gets the Ax

No SaaS storage vendors have implemented adequate safeguards that will keep corporate data safe.

WANT TO KNOW what keeps me, my company's go-to security guy, awake at night? Many things, I can assure you, but lately the No. 1 threat to a good night's sleep has been the proliferation of software as a service at my company.

What makes it nightmarish for me is what makes it so attractive to just about everyone else: It's so easy for anyone with a credit card to spin up a new architecture with a few clicks of a mouse. And it can be done with little to no visibility, as long as there is no need to integrate it with other IT systems.

computerworld.com/
blogs/security

Case in point: A business unit recently sprang for storage in the cloud for its employees. I might not have found out about it at all, but I ran into someone in the cafeteria who told me be was concerned that sensitive data might be exposed because of this arrangement. (This isn't the first time I've learned something startling in the cafeteria. Brown-bagging it could adversely affect my career.)

In the old days, if you wanted to add servers, extra storage infrastructure or other data center resources, you had to purchase a server, unpack a box, roll the new unit into the data center, attach rail kits, insert new drives, and add power and Ethernet. It was the sort of thing that got noticed, so it was fairly easy to make sure that everything was done according to guidelines.

I actually like the idea of storing data in the cloud. It sure saves money, and it offers quite a bit of flexibility in terms of the availability of data. But that easy availability becomes a liability if there's any chance that sensitive data could be involved.

Once data has been moved to a cloud storage service, it can be accessed from almost any PC or mobile device. Again, that convenience is a major selling point, hut if the data is something that the company cannot afford to have jeopardized, then tbe ease of access is a legal, security and HR nightmare.

Not wanting more sleepless nights, I immediately alerted my firewall guy, who pulled up a report on the accessing of personal cloud storage sites from corporate locations that are monitored. As it turns out, cloud storage sites were being accessed quite often. That was alarming, but when we took a closer look, we saw that most of the cloud storage activity involved personal photos, music and videos. Fine; cloud storage is ideal for that sort of thing, and it keeps all that personal data from hogging space on our servers via employees' network-share H: drives. But some sensitive data, including strategic product road maps, had been transferred.

Pulling the Plug

That was all I needed to see to convince me that I had to pull the plug on the cloud storage initiative until we can figure out a way to properly protect data.

Some vendors have made progress in this area, but so far, none meet my requirements, which include limiting access to restricted company resources. I don't want employees downloading data to an Internet kiosk in, say, Cancun. I checked in with Legal and then decided to block access to the entire category of personal storage sites by reconfiguring the content-filtering functionality of our new firewalls. (We had to make a few exceptions that would allow us to continue sharing data with partners, but those exceptions were few and far between.)

I'll be keeping my eye on the fast-changing cloud storage industry, and when I find a vendor that satisfactorily addresses the security risks, I will reconsider our stance. But for now, we're keeping our storage capacity in-house, where we can keep an eye on our data. ◆

This week's journal is written by a real security manager, **"Mathias Thurman,"** *whose name and employer have been disguised for obvious reasons. Contact him at mathias_thurman@yahoo.com.*

> **I actually like the idea of storing data in the cloud. It sure saves money, and it offers quite a bit of flexibility.**

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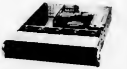

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OPINION

BART PERKINS

Data Breaches' Costly Fallout

According to the Ponemon Institute, the average cost of a breach was $7.2 million in 2010.

DATA BREACHES are no longer rare events. In recent high-profile breaches, Vodafone Australia made millions of customers' names, addresses, credit card information, and driver's license numbers freely available; the Sony PlayStation Network compromised 77 million users' personal data; and the hack of email marketer Epsilon exposed customer data from Citibank, Disney, Best Buy, Kroger and other companies.

Data security is often considered an IT problem. But the enormous costs and far-ranging consequences of a breach are enterprisewide concerns. Breaches are expensive, requiring extra staff, external legal counsel, credit monitoring services for victims, and more. The Ponemon Institute reported that the average cost of a breach was $7.2 million in 2010, or $214 per compromised customer record.

Although frequently overlooked, indirect costs of breaches are often higher than direct costs. Indirect costs come in many forms, including these:

Staff. Data breaches get management's full attention, often resulting in staff reassignments and delays on other projects. Breaches also distract employees, particularly when their data has been compromised. Overall, IT productivity declines.

Public relations. After a breach, angry, fearful customers desperately seek information and reassurance. Companies try to control the damage by issuing press releases or setting up special call centers, social networks and other forums. But few customers defect even if they're unhappy. The bar is low: You only have to be as good as the competition.

Finger-pointing. Many companies want a scapegoat. During one company's server center renovation, a tape containing customer data disappeared. Security videos suggested that a construction worker might have hidden it in his toolbox. But the vice president responsible for renovations blamed the CIO. The CIO's counterattack implicated improperly screened workers. When other executives joined the fray, the CEO fired the CIO so the organization could return to business as usual.

Government inquiries. Following a breach, government agencies may launch probes of the incident. The Federal Trade Commission, the FBI and the Secret Service have all investigated recent breaches. Responding to these probes can be time-consuming. And you certainly can't refuse! Although Sony declined to testify at House subcommittee hearings on the PlayStation breach, it has doubtlessly invested significant resources in legal preparations, in case it is later subpoenaed.

Political attacks. Politicians like to demonize individuals, groups or companies. The press and social media can magnify these political assaults. Sen. Richard Blumenthal's letter to Sony expressing concern about delays in notifying customers might be just a bit of political grandstanding, but Sony has to respond nonetheless.

Customer inconvenience. When credit card data is compromised, many customers request (or automatically receive) new cards. Then customers have to go to the trouble of giving their new card numbers to all of the merchants with whom they have automatic payment plans. They may not stop doing business with the breached company, but they might use different cards for future purchases.

Breach-related costs have a huge bottom-line impact. A comprehensive analysis of Epsilon's data breach estimates that costs could reach $4 billion.

Don't become complacent because you have a privacy and security program. Many programs focus primarily (or exclusively) on regulatory compliance and breach prevention. Make sure your program also invests time in creating and publicizing an enterprisewide plan for responding to breaches and addressing the fallout. Don't wait until the FBI knocks on your door. ◆

Bart Perkins is managing partner at Louisville, Ky.-based Leverage Partners, which helps organizations invest well in IT. Contact him at BartPerkins@LeveragePartners.com.

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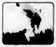

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Career Watch

IT Employment Passes

IT employment has risen to more than 4 million jobs for the first time since November 2008.

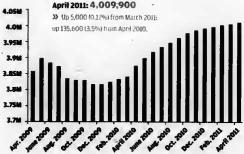
TechServe Alliance, an industry group of service companies that analyzes U.S. Bureau of Labor Statistics data, said on May 17 that IT employment had reached 4,009,900 jobs. TechServe didn't make that determination until last month, when the BLS released a routine revision of February employment data, according to Mark Roberts, CEO of TechServe. IT employment has increased for 16 straight months, he added.

Back in November 2008, the 4 million mark was reached for the first time, but it didn't last, as the economy worsened rapidly and companies quickly shed jobs. By mid-2009, nearly 200,000 IT jobs had disappeared.

It remains to be seen whether IT employment will stay above the 4 million mark for a longer stretch this time. Massive layoffs are expected at both Cisco and Hewlett-Packard.

It's also worth noting that the BLS data measures only about 30 types of IT jobs. David Foote, president of Foote Associates, who has talked about the shortcomings of the Standard Occupational Classification system previously in *Computerworld*, said in a press release that because no IT-business hybrid jobs are officially tracked in government data, "I would argue that some of the more compelling, far-reaching trends in the U.S. workforce are going undocumented." He added that without a change in the SOC system, "none of us should expect a real-world view of IT employment trends" from the monthly BLS reports.

– PATRICK THIBODEAU


IT Employment Index, April 2011: 4,009,900

» Up 5,000 (0.12%) from March 2011; up 135,600 (3.5%) from April 2010.

SOURCE: TECHSERVE ALLIANCE

ASK A PREMIER 100 IT LEADER

Paul Cottey

Accretive Health

I work in security, and sometimes it almost seems as if my department is at war with others in IT: app/dev, networking, you name it. How do we defuse this situation? You will never be able to avoid the push-me, pull-you struggle between people's desire to be creative in solving business problems and the legitimate need of a business to be run in a secure fashion, but it does not need to be an all-out war. The best things you can do are to seek to understand the other person's point of view and then explain the rationale behind yours. I have found that few things make people madder than being told, "Because I said so!" If you are enforcing laws or company policies, be specific, and if you know of an appeals process or another mechanism to find an exception, offer it up. You can't compromise your core principles, but you can be flexible and see shades of gray. At the end of the day, each of your departments needs to accomplish its goals, and most of the time there do not need to be winners and losers.

If you have a question for one of our Premier 100 IT Leaders, send it to askaleader@computerworld.com, and watch for this column each month.

I've suddenly become bored with my job as a desktop specialist. Any advice on revitalizing my interest? My guess is that you're bored because you've gotten progressively better at the main tasks you're asked to perform and now don't see a challenge in them. It may feel like it happened suddenly, but the boredom has probably been creeping up on you for some time as you've gotten the hang of your daily tasks. This means you're unlikely to revitalize your interest in the previous tasks, but it doesn't mean you can't revitalize your interest in your job. If there is an opportunity for advancement, talk to your boss about it. Don't say, "I'm bored"; say, "I'm ready for additional responsibilities," or, "I have some ideas on ways I could do my current job and more." If there isn't an opportunity for advancement, then think about what characteristics a job you were not bored with would have – for example, more end-user contact. See if you can work more of those things into your daily routine. If not, pursue some activities on your own that will open up opportunities at your current company or elsewhere. You might look at certifications or public speaking classes or some other activities that will keep you busy in the short term (and relieve some of your boredom) and open up opportunities in the future.

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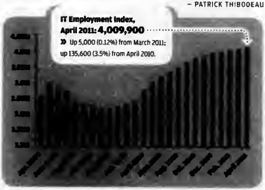

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ASK A PREMIER 100 IT LEADER

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The CIO at **Accretive Health**

answers questions about the conflict between security and other IT functions, and dealing with job boredom.

I work in security, and sometimes it almost seems as if my department is at war with others in IT: app/dev, networking, you name it. How do we defuse this situation? You will never be able to avoid the push-me, pull-you struggle between people's desire to be creative in solving business problems and the legitimate need of a business to be run in a secure fashion, but it does not need to be an all-out war. The best things you can do are to seek to understand the other person's point of view and then explain the rationale behind yours. I have found that few things make people madder than being told, "Because I said so!" If you are enforcing laws or company policies, be specific, and if you know of an appeals process or another mechanism to find an exception, offer it up. You can't compromise your core principles, but you can be flexible and see shades of gray. At the end of the day, each of your departments needs to accomplish its goals, and most of the time there do not need to be winners and losers.

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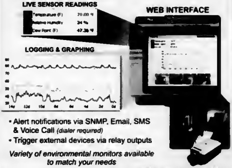

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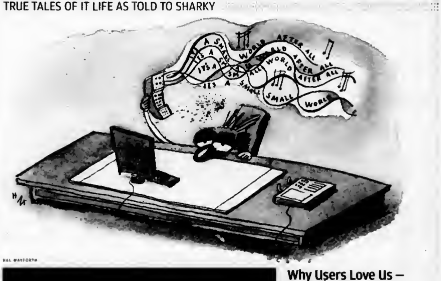
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HAL MAYFORTH

How to Reduce Support Calls

This pilot fish is the only support guy for a wireless bar-code scanner system that's used by the sales reps. But eventually he wants some time off to take the family to the Happiest Place on Earth. Management OKs the vacation, but only if fish takes a company phone for handling support calls. OK, fish figures, it'll give me something to do while I'm waiting in those ticket lines. Sure enough, the first support call from a sales rep takes an hour – almost exactly how long it takes to get to the front of the line. "After I returned to the office, the sales rep wandered by my desk," fish says. "To thank me for taking time out of my vacation to help him out? Nope – to threaten my life, because during the hourlong call, he could hear the music in the background. After several days, the poor sales rep still had 'It's a Small World' stuck in his head."

Oops!

Pilot fish working for a defense contractor is added to a long-running project. Her first step: poking around the project repository to look for videos and slide presentations to learn all she can. "My research resulted in thumbnails of porn video," fish says. "I quickly reported them to my supervisor, as I didn't want any trouble for inadvertently viewing them. The naughty files were buried deep in the directory structure in a 'My Documents' subfolder, so I guessed it was backed up from a PC when an employee quit. I was happy to know I wasn't going to be responsible for getting someone fired. Actually, though, the guy hadn't quit – he had been fired. And it was for having porn on his PC. And after security had escorted him off the premises, IT had promptly backed up his files to the server so they could reformat his PC for reuse."

Why Users Love Us – Sometimes

On a desk-side visit to help a user with a word-processing problem, this pilot fish notices that the user keeps hunching over as she types. "I asked if there was a problem," says fish. "The user informed me that her monitor was too low and that she was told when it was installed that the height could not be adjusted because of the type of base on the monitor. I thought this was odd, because we specifically purchase monitors that are adjustable. I looked at her monitor and discovered that the pin that holds the base in place during shipping was still there. I pulled the pin out and easily adjusted the monitor up to a more comfortable level. The user said she was told *not* to remove the pin, and she had always wondered what it did!"

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OPINION

THORNTON A. MAY

Set the IT Record Straight

I RECENTLY ASKED a group of high-performance CIOs what they saw as the greatest threat to IT's reputation. One of the most frequent responses was, "Our legacy." The respondents were concerned that they would be stymied in their attempts to create value in the future because IT leaders had made missteps in the past.

But is that an accurate perception about IT? Somehow, IT has been branded as an out-of-control spendthrift that has made huge mistakes costing businesses money and competitive advantage. And herein lies the challenge. Our past is poorly understood and materially misrepresented in the collective memory of the enterprise. IT leaders must set the record straight. Each of us has to aggressively, eloquently and honestly rewrite the history of IT in our organizations. Let truth ring out!

> IT has been branded as an out-of-control spendthrift that has made huge mistakes costing businesses money and competitive advantage.

There is no doubt that IT has been tainted with a false memory. My own research with thousands of executives in hundreds of cities corroborates it. For the past three years, I have been asking audiences at conferences all across North America to describe the era we have just left, the era we are in and the era we are about to enter. Inevitably, someone in the audience — typically an IT practitioner — describes the preceding era as one in which "IT was spending like drunken sailors." This persistent belief in an era of "IT gone wild" is an urban myth. Talk to IT leaders between 45 and 65 years old. They will tell you that there has never — I repeat, *never* — been a time when enterprise IT was handed a blank check. At no point in history will you find record of a CFO stuffing Benjamins into an IT G-string. It just didn't happen.

To be fair, there have been moments in IT history when the enterprise was predisposed to invest in IT, when the executives in charge of allocating capital have suspended their disbelief regarding estimates of payback on IT investments. One such moment occurred at the end of the last century — the Y2K phenomenon. Another was the ERP frenzy, which resulted in an enormous spike in the fortunes of vendors. In his forthcoming book, *Escape Velocity: Free Your Company's Future From the Pull of the Past*, Geoffrey Moore calls it the "Time of the Great Happiness." And who can forget when the entire global business community was on "Web crack"?

We still await an authoritative historical accounting of these atypical moments in IT history. I believe Y2K, ERP and the dot-com boom were shaping, not defining, moments. IT learned a lot from each of them and moved on. And yet these three epochs, though far from representative, have given rise to most IT myths and anecdotes.

Just as slavery, America's original sin of inequality, was left unaddressed in the Declaration of Independence, the ticking time bomb of the general business community's IT illiteracy has been left unaddressed by most IT histories. A quick case in point: At a Fortune 20 company that arguably has one of the best-run IT infrastructures on the planet, the executive in charge of that infrastructure — upon demonstrating with decimal-point precision that he has consistently reduced IT unit costs far in excess of benchmark norms — is still called on the carpet for IT costs going up. Even though those cost increases are entirely driven by user demand.

If IT is to deliver its full value to the enterprise in the future and silence its detractors, we must slay the dragons of our past. We have to take a larger role in sculpting the narrative of history — not with an eye toward suppressing alternative points of view, but with the goal of making sure that the truth about how value is created or destroyed becomes part of the historical record. ◆

Thornton A. May is the author of *The New Know: Innovation Powered by Analytics* and executive director of the IT Leadership Academy at Florida State College at Jacksonville. You can contact him at thorntonamay@aol.com.

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